

WHAT IS CLAIMED IS:

1. A driving device of an image display device, comprising:

an input terminal for receiving first tone data indicative of a current tone of each of pixels;

noise adding means for adding noise data to the first tone data, and for rounding a less significant bit whose bit width is predetermined, so as to generate second tone data;

noise generating means for generating the noise data such that the noise data added to the first tone data supplied to the pixels of the same color which are adjacent to each other have random volumes, and for supplying the noise data to the noise adding means;

storage means for storing current second tone data of the pixel until next second tone data is inputted; and

first correction means for correcting the current second tone data, in accordance with previous second tone data read out from the storage means, so as to facilitate tone transition from the previous second tone data to the current second tone data.

2. The driving device as set forth in claim 1, wherein the noise generating means generates the noise data

so that each volume of the noise data added to the first tone data supplied to the same pixel is constant every time the noise data is added.

3. The driving device as set forth in claim 2, wherein:  
the first tone data is represented by 8 bits, and a maximum value of an absolute value of the noise data is set to be in a range from 1 tone to 32 tones, and wherein the noise adding means, the noise generating means, the storage means, and the first correction means are provided for each color of R, G, and B.

4. The driving device as set forth in claim 2, comprising

least significant bit control means for varying a least significant bit of the second tone data in accordance with a predetermined pattern so that a tone obtained by averaging the second tone data supplied to the same pixel corresponds to a tone whose least significant bit has not been rounded by the noise adding means.

5. The driving device as set forth in claim 4, wherein  
the first correction means stops correcting the current second tone data when a difference between the

previous second tone data and the current second tone data corresponds to a possible difference caused merely by addition of the noise data and variation of the least significant bit that is performed by the least significant bit control means.

6. The driving device as set forth in claim 5, wherein the pixels are divided into a plurality of areas, said driving device further comprising:

noise amount control means for averaging first tone data supplied to the pixels in each of the areas, and for controlling the noise generating means so that a maximum value of an absolute value of the noise data is relatively smaller in a case where an average value of the first tone data is relatively small than in a case where the average value of the first tone data is relatively high.

7. The driving device as set forth in claim 6, wherein: a video signal including the first tone data inputted to the input terminal is obtained by dividing an image into a plurality of blocks and encoding each of the blocks, and wherein the areas correspond to the blocks.

8. The driving device as set forth in claim 1, wherein

the noise generating means generates the noise data so that the noise data added to the first tone data supplied to the same pixel have random sizes.

9. The driving device as set forth in claim 8, wherein the first correction means stops correcting the current second tone data when a difference between the previous second tone data and the current second tone data corresponds to a possible difference caused merely by addition of the noise data.

10. The driving device as set forth in claim 9, wherein:

the first tone data is represented by 8 bits, and a maximum value of an absolute value of the noise data is set to be in a range from 1 tone to 8 tones, and

the noise adding means, the noise generating means, the storage means, and the first correction means are provided for each color of R, G, and B.

11. The driving device as set forth in claim 8, wherein:

the first tone data is represented by 8 bits, and a maximum value of an absolute value of the noise data is

set to be in a range from 1 tone to 8 tones, and

the noise adding means, the noise generating means, the storage means, and the first correction means are provided for each color of R, G, and B.

12. The driving device as set forth in claim 8, comprising

least significant bit control means for varying a least significant bit of the second tone data in accordance with a predetermined pattern so that a tone obtained by averaging the second tone data supplied to the same pixel corresponds to a tone whose least significant bit has not been rounded by the noise adding means.

13. The driving device as set forth in claim 12, wherein

the first correction means stops correcting the current second tone data when a difference between the previous second tone data and the current second tone data corresponds to a possible difference caused merely by addition of the noise data and variation of the least significant bit that is performed by the least significant bit control means.

14. The driving device as set forth in claim 13, wherein the pixels are divided into a plurality of areas, the driving device further comprising:

noise amount control means for averaging the first tone data supplied to the pixels in each of the areas, and for controlling the noise generating means so that a maximum value of an absolute value of the noise data is relatively smaller in a case where an average value of the first tone data is relatively small than in a case where the average value of the first tone data is relatively high.

15. The driving device as set forth in claim 14, wherein:

a video signal including the first tone data inputted to the input terminal is obtained by dividing an image into a plurality of blocks and encoding each of the blocks, and wherein the areas correspond to the blocks.

16. The driving device as set forth in claim 1, comprising

least significant bit control means for varying a least significant bit of the second tone data in accordance with a predetermined pattern so that a tone obtained by averaging the second tone data supplied to the same pixel

corresponds to a tone whose least significant bit has not been rounded by the noise adding means.

17. The driving device as set forth in claim 16, wherein

the first correction means stops correcting the current second tone data when a difference between the previous second tone data and the current second tone data corresponds to a possible difference caused merely by addition of the noise data and variation of the least significant bit that is performed by the least significant bit control means.

18. The driving device as set forth in claim 17, wherein the pixels are divided into a plurality of areas, the driving device further comprising:

noise amount control means for averaging the first tone data supplied to the pixels in each of the areas, and for controlling the noise generating means so that a maximum value of an absolute value of the noise data is relatively smaller in a case where an average value of the first tone data is relatively small than in a case where the average value of the first tone data is relatively high.

19. The driving device as set forth in claim 18, wherein:

a video signal including the first tone data inputted to the input terminal is obtained by dividing an image into a plurality of blocks and encoding each of the blocks, and wherein the areas correspond to the blocks.

20. The driving device as set forth in claim 1, wherein the storage means is for storing both the current second tone data and the previous second tone data, the driving device further comprising:

second correction means for correcting the previous second tone data of the first correction means so that the previous second tone data approaches further previous second tone data when a combination of the further previous second tone data and the previous second tone data stored by the storage means is a predetermined combination.

21. The driving device as set forth in claim 20, further comprising:

bit width adjusting means for limiting a total of a bit width, of the current second tone data and a bit width of the previous second tone data so that the total



corresponds to a preset value, by rounding a less significant bit of at least one of the current second tone data and the previous second tone data, before the storage means stores the current second tone data and the previous second tone data.

22. The driving device as set forth in claim 21, wherein

the bit width adjusting means changes a ratio, at which the bit width of the previous second tone data is contained in the preset value, in accordance with at least one of a type of an image and a temperature.

23. The driving device as set forth in claim 1, comprising:

tone conversion means, provided between the input terminal and the noise adding means, for converting the first tone data into tone data having a  $\gamma$  property larger than a  $\gamma$  property of the first tone data, wherein

a possible lowest limit of the tone data having been subjected to  $\gamma$  conversion is set to be higher than a lower limit of a representable value range of the tone data, said tone data varying according to conversion of the first tone data.

24. The driving device as set forth in claim 23, wherein:

a bit width of the first tone data is 8 bits, and

a bit width of the tone data having been subjected to the  $\gamma$  conversion is 10 bits, and

a bit width of the less significant bit is 2 bits.

25. An image display device, which includes pixels and a driving device, comprising:

an input terminal for receiving first tone data indicative of a current tone of each of pixels;

noise adding means for adding noise data to the first tone data, and for rounding a less significant bit whose bit width is predetermined, so as to generate second tone data;

noise generating means for generating the noise data such that the noise data added to the first tone data supplied to the pixels of the same color which are adjacent to each other have random volumes, and for supplying the noise data to the noise adding means;

storage means for storing current second tone data of the pixel until next second tone data is inputted; and

first correction means for correcting the current

second tone data, in accordance with previous second tone data read out from the storage means, so as to facilitate tone transition from the previous second tone data to the current tone data.

26. The image display device as set forth in claim 25, wherein

the image display device is a television receiver.

27. A program, causing a computer to function as:

noise adding means for adding noise data to first tone data inputted to an input terminal receiving the first tone data indicative of a current tone of each of pixels, and rounding a less significant bit whose bit width is predetermined, so as to generate second tone data;

noise generating means for generating the noise data so that the noise data added to the first tone data supplied to the pixels of the same color which are adjacent to each other have random volumes;

storage means for storing current second tone data of the pixel until next second tone data is inputted; and

first correction means for correcting the current second tone data, in accordance with previous second tone data read out from the storage means, so as to facilitate

tone transition from the previous second tone data to the current tone data.

28. A storage medium, storing a program which causes a computer to function as:

noise adding means for adding noise data to first tone data inputted to an input terminal receiving the first tone data indicative of a current tone of each of pixels, and rounding a less significant bit whose bit width is predetermined, so as to generate second tone data;

noise generating means for generating the noise data so that the noise data added to the first tone data supplied to the pixels of the same color which are adjacent to each other have random volumes, and supplying the noise data to the noise adding means;

storage means for storing current second tone data of the pixel until next second tone data is inputted; and

first correction means for correcting the current second tone data, in accordance with previous second tone data read out from the storage means, so as to facilitate tone transition from the previous second tone data to the current tone data.

29. A driving device of an image display device,

comprising:

tone conversion means for converting first tone data indicative of a current tone of each of pixels into second tone data having a  $\gamma$  property larger than a  $\gamma$  property of the first tone data;

storage means for storing current second tone data of the pixel until next time; and

correction means for correcting the current second tone data, in accordance with previous second tone data read out from the storage means, so as to facilitate tone transition from the previous second tone data to the current tone data, wherein

a lowest possible limit of the second tone data which varies according to conversion of the first tone data is set to be higher than a lower limit of a representable value range of the second tone data.

30. The driving device as set forth in claim 29, wherein

a bit width of the second tone data is set to be wider than a bit width of the first tone data.

31. The driving device as set forth in claim 30, wherein

the bit width of the first tone data is 8 bits, and the bit width of the second tone data is 10 bits.

32. The driving device as set forth in claim 29, comprising:

noise adding means for adding noise data and rounding a less significant bit having a predetermined bit width before inputting the second tone data to the storage means and the correction means; and

noise generating means for generating the noise data so that the noise data added to the pixels of the same color which are adjacent to each other have random volumes, and supplying the noise data to the noise adding means.

33. The driving device as set forth in claim 32, wherein:

a bit width of the first tone data is 8 bits, and  
a bit width of the second tone data is 10 bits, and  
a bit width of the less significant bit is 2 bits.

34. A program, causing a computer to function as:

tone conversion means for converting first tone data indicative of a current tone of each of pixels into second

tone data having a  $\gamma$  property larger than a  $\gamma$  property of the first tone data;

storage means for storing current second tone data of the pixel until next time; and

correction means for correcting the current second tone data, in accordance with previous second tone data read out from the storage means, so as to facilitate tone transition from the previous second tone data to the current tone data, wherein

a lowest possible limit of the second tone data which varies according to conversion of the first tone data is set to be higher than a lower limit of a representable value range of the second tone data.

35. A storage medium, storing a program which causes a computer to function as:

tone conversion means for converting first tone data indicative of a current tone of each of pixels into second tone data having a  $\gamma$  property larger than a  $\gamma$  property of the first tone data;

storage means for storing current second tone data of the pixel until next time; and

correction means for correcting the current second tone data, in accordance with previous second tone data

read out from the storage means, so as to facilitate tone transition from the previous second tone data to the current tone data, wherein

a lowest possible limit of the second tone data which varies according to conversion of the first tone data is set to be higher than a lower limit of a representable value range of the second tone data.

36. An image display device, which includes pixels and a driving device for generating corrected second tone data so as to drive the pixels,

said driving device comprising:

tone conversion means for converting first tone data indicative of a current tone of each of pixels into second tone data having a  $\gamma$  property larger than a  $\gamma$  property of the first tone data;

storage means for storing current second tone data of the pixel until next time; and

correction means for correcting the current second tone data, in accordance with previous second tone data read out from the storage means, so as to facilitate tone transition from the previous second tone data to the current tone data, wherein

a lowest possible limit of the second tone data which



varies according to conversion of the first tone data is set to be higher than a lower limit of a representable value range of the second tone data.

37. The image display device as set forth in claim 36, wherein

the image display device is a television receiver.

38. The driving device as set forth in claim 1, wherein

the noise adding means rounds the less significant bit by truncating the less significant bit.

39. The driving device as set forth in claim 21, wherein

the bit width adjusting means rounds the less significant bit by truncating the less significant bit.

40. The driving device as set forth in claim 32, wherein

the noise adding means rounds the less significant bit by truncating the less significant bit.

41. A driving device of an image display device,

comprising:

an input terminal for receiving first tone data indicative of a current tone of each of pixels;

noise adding means for adding noise data to the first tone data so as to generate second tone data;

noise generating means for generating the noise data such that the noise data added to the first tone data supplied to the pixels of the same color which are adjacent to each other have random volumes, and for supplying the noise data to the noise adding means;

storage means for compressing and storing current second tone data of the pixel until next second tone data is inputted; and

first correction means for correcting the current second tone data, in accordance with previous second tone data read out from the storage means, so as to facilitate tone transition from the previous second tone data to the current second tone data, and for rounding a less significant bit whose bit width is predetermined, so as to output the current second tone data that has been corrected.

42. The driving device as set forth in claim 29, further comprising:

noise adding means for adding noise data before inputting the second tone data to the storage means and the correction means; and

noise generating means for generating the noise data such that the noise data added to the pixels of the same color which are adjacent to each other have random volumes, and supplying the noise data to the noise adding means, wherein the storage means is for compressing and storing current second tone data of the pixel until next second tone data is inputted, and wherein the correction means rounds a less significant bit whose bit width is predetermined before outputting the current second tone data that has been corrected.

43. A driving device of an image display device, comprising:

noise generating means for generating noise data;

noise adding means for adding the generated noise data to received first tone data, and for rounding at least one less significant bit so as to generate second tone data;

storage means for storing the second tone data of the pixel; and

correction means for correcting current second tone data of the pixel, in accordance with previous second tone

data read out from the storage means, so as to facilitate tone transition from the previous second tone data to the current second tone data.

44. The driving device as set forth in claim 43, wherein the noise generating means generates noise data such that the noise data to be added to the first tone data supplied to the pixels of the same color which are adjacent to each other have random volumes.

45. The driving device as set forth in claim 44, wherein the noise generating means generates noise data so that each volume of the noise data added to the first tone data supplied to the same pixel is constant every time the noise data is added

46. The driving device as set forth in claim 43, wherein:

a video signal including the received first tone data is obtained by dividing an image into a plurality of blocks and encoding each of the blocks.

47. The driving device as set forth in claim 43, wherein:

the first tone data is represented by 8 bits, a maximum value of an absolute value of the noise data is set to be in a range from 1 tone to 32 tones, and the second tone data is represented by 6 bits.

48. The driving device as set forth in claim 43, wherein:

the first tone data is represented by 10 bits and the second tone data is represented by 8 bits.

49. The driving device as set forth in claim 47, wherein the noise adding means, the noise generating means, the storage means, and the correction means are provided for each color of R, G, and B.

50. The driving device as set forth in claim 43, wherein

the noise generating means generates the noise data so that the noise data added to the first tone data supplied to the same pixel have random sizes.

51. The driving device as set forth in claim 50, wherein

the correction means stops correcting the current

second tone data when a difference between the previous second tone data and the current second tone data corresponds to a possible difference caused merely by addition of the noise data.

52. The driving device as set forth in claim 51, wherein:

the first tone data is represented by 8 bits, and a maximum value of an absolute value of the noise data is set to be in a range from 1 tone to 8 tones, and wherein the second tone data is represented by 6 bits.

53. The driving device as set forth in claim 52, wherein:

the noise adding means, the noise generating means, the storage means, and the correction means are provided for each color of R, G, and B.

54. The driving device as set forth in claim 50, wherein:

the first tone data is represented by 8 bits, and a maximum value of an absolute value of the noise data is set to be in a range from 1 tone to 8 tones, and

the noise adding means, the noise generating means,

the storage means, and the correction means are provided for each color of R, G, and B.

55. The driving device as set forth in claim 54, comprising

least significant bit control means for varying a least significant bit of the second tone data in accordance with a predetermined pattern so that a tone obtained by averaging the second tone data supplied to the same pixel corresponds to a tone whose least significant bit has not been rounded by the noise adding means.

56. The driving device as set forth in claim 55, wherein

the correction means stops correcting the current second tone data when a difference between the previous second tone data and the current second tone data corresponds to a possible difference caused merely by addition of the noise data and variation of the least significant bit that is performed by the least significant bit control means.

57. The driving device as set forth in claim 56, wherein the pixels are divided into a plurality of areas, the

driving device further comprising:

noise amount control means for averaging the first tone data supplied to the pixels in each of the areas, and for controlling the noise generating means so that a maximum value of an absolute value of the noise data is relatively smaller in a case where an average value of the first tone data is relatively small than in a case where the average value of the first tone data is relatively high.

58. The driving device as set forth in claim 57, wherein:

a video signal including the first tone data is obtained by dividing an image into a plurality of blocks and encoding each of the blocks, and wherein the areas correspond to the blocks.

59. The driving device as set forth in claim 43, further comprising:

least significant bit control means for varying a least significant bit of the second tone data in accordance with a predetermined pattern so that a tone obtained by averaging the second tone data supplied to the same pixel corresponds to a tone whose least significant bit has not been rounded by the noise adding means.



60. The driving device as set forth in claim 59, wherein

the correction means stops correcting the current second tone data when a difference between the previous second tone data and the current second tone data corresponds to a possible difference caused merely by addition of the noise data and variation of the least significant bit that is performed by the least significant bit control means.

61. The driving device as set forth in claim 60, wherein the pixels are divided into a plurality of areas, the driving device further comprising:

noise amount control means for averaging the first tone data supplied to the pixels in each of the areas, and for controlling the noise generating means so that a maximum value of an absolute value of the noise data is relatively smaller in a case where an average value of the first tone data is relatively small than in a case where the average value of the first tone data is relatively high.

62. The driving device as set forth in claim 61, wherein:

a video signal including the first tone data is obtained by dividing an image into a plurality of blocks and encoding each of the blocks, and wherein the areas correspond to the blocks.

63. The driving device as set forth in claim 43, wherein the storage means is for storing both the current second tone data and the previous second tone data, the driving device further comprising:

second correction means for correcting the previous second tone data of the correction means so that the previous second tone data approaches further previous second tone data when a combination of the further previous second tone data and the previous second tone data stored by the storage means is a predetermined combination.

64. The driving device as set forth in claim 63, further comprising:

bit width adjusting means for limiting a total of a bit width of the current second tone data and a bit width of the previous second tone data so that the total corresponds to a preset value.

65. The driving device as set forth in claim 64, wherein the bit width adjusting means limits a total of a bit width by rounding a less significant bit of at least one of the current second tone data and the previous second tone data, before the storage means stores the current second tone data and the previous second tone data.

66. The driving device as set forth in claim 65, wherein

the bit width adjusting means changes a ratio, at which the bit width of the previous second tone data is contained in the preset value, in accordance with at least one of a type of an image and a temperature.

67. The driving device as set forth in claim 64, wherein

the bit width adjusting means changes a ratio, at which the bit width of the previous second tone data is contained in the preset value, in accordance with at least one of a type of an image and a temperature.

68. The driving device as set forth in claim 43, comprising:

conversion means for converting, prior to the noise

adding means, the first tone data into tone data having a  $\gamma$  property relatively larger than a  $\gamma$  property of the first tone data.

69. The driving device as set forth in claim 68, wherein the correction means uses rounded off bits for correcting current second tone data of the pixel.

70. The driving device as set forth in claim 68, wherein

a possible lowest limit of the tone data having been subjected to  $\gamma$  conversion is set to be higher than a lower limit of a representable value range of the tone data, said tone data varying according to conversion of the first tone data.

71. The driving device as set forth in claim 68, wherein:

a bit width of the first tone data is 8 bits, and

a bit width of the tone data having been subjected to the  $\gamma$  conversion is 10 bits, and

a bit width of the at least one less significant bit is 2 bits.

72. The driving device as set forth in claim 71, wherein the correction means uses the less significant 2 bits for correcting current second tone data of the pixel.

73. The driving device as set forth in claim 70, wherein:

a bit width of the first tone data is 8 bits, and

a bit width of the tone data having been subjected to the  $\gamma$  conversion is 10 bits, and

a bit width of the at least one less significant bit is 2 bits.

74. An image display device including the driving device as set forth in claim 1.

75. The image display device as set forth in claim 74, wherein the image display device is a television receiver.

76. An image display device including the driving device as set forth in claim 43.

77. The image display device as set forth in claim 76, wherein the image display device is a television

receiver.

78. The driving device as set forth in claim 43, wherein the noise adding means rounds the at least one less significant bit by truncating the less significant bit.

79. A driving device of an image display device, comprising:

noise generating means for generating noise data;

noise adding means for adding the generated noise data to received first tone data so as to generate second tone data;

storage means for storing the second tone data of the pixel; and

correction means for correcting the current second tone data of the pixel, in accordance with previous second tone data read out from the storage means, so as to facilitate tone transition from the previous second tone data to the current second tone data, and for rounding at least one less significant bit so as to output corrected current second tone data.

80. An image display device including the driving device as set forth in claim 79.

81. The image display device as set forth in claim 80, wherein the image display device is a television receiver.

82. An image display device including the driving device as set forth in claim 41.

83. The image display device as set forth in claim 82, wherein the image display device is a television receiver.

84. An image display device including the driving device as set forth in claim 42.

85. The image display device as set forth in claim 84, wherein the image display device is a television receiver.

86. A driving method for an image display device, comprising:

generating noise data;

adding the generated noise data to received first tone data;

rounding at least one less significant bit from the added generated noise data and first tone data so as to generate second tone data;

storing the second tone data of the pixel; and

correcting current second tone data of the pixel, in accordance with the stored previous second tone data, so as to facilitate tone transition from the previous second tone data to the current second tone data.

87. The method as set forth in claim 86, wherein the noise generating includes generating noise data such that the noise data to be added to the first tone data supplied to the pixels of the same color which are adjacent to each other have random volumes.

88. The method as set forth in claim 87, wherein the noise generating includes generating noise data so that each volume of the noise data added to the first tone data supplied to the same pixel is constant every time the noise data is added

89. The method as set forth in claim 86, wherein:

a video signal including the received first tone data is obtained by dividing an image into a plurality of blocks



and encoding each of the blocks.

90. The method as set forth in claim 86, wherein:

the first tone data is represented by 8 bits, a maximum value of an absolute value of the noise data is set to be in a range from 1 tone to 32 tones, and the second tone data is represented by 6 bits.

91. The method as set forth in claim 86, wherein:

the first tone data is represented by 10 bits and the second tone data is represented by 8 bits.

92. The method as set forth in claim 90, wherein

the noise adding, the noise generating, the storing, and the correcting are provided for each color of R, G, and B.

93. The method as set forth in claim 86, wherein

the noise generating includes generating the noise data so that the noise data added to the first tone data supplied to the same pixel have random sizes.

94. The method as set forth in claim 93, wherein

the correcting of the current second tone data is stopped when a difference between the previous second

tone data and the current second tone data corresponds to a possible difference caused merely by addition of the noise data.

95. The method as set forth in claim 94, wherein:

the first tone data is represented by 8 bits, and a maximum value of an absolute value of the noise data is set to be in a range from 1 tone to 8 tones, and wherein the second tone data is represented by 6 bits.

96. The method as set forth in claim 95, wherein:

the noise adding, the noise generating, the storing, and the correcting are provided for each color of R, G, and B.

97. The method as set forth in claim 93, wherein:

the first tone data is represented by 8 bits, and a maximum value of an absolute value of the noise data is set to be in a range from 1 tone to 8 tones, and

the noise adding, the noise generating, the storing, and the correcting are provided for each color of R, G, and B.

98. The method as set forth in claim 97, further

comprising:

varying a least significant bit of the second tone data in accordance with a predetermined pattern so that a tone obtained by averaging the second tone data supplied to the same pixel corresponds to a tone whose least significant bit has not been rounded by the noise adding.

99. The method as set forth in claim 98, wherein the correcting of the current second tone data is stopped when a difference between the previous second tone data and the current second tone data corresponds to a possible difference caused merely by addition of the noise data and variation of the least significant bit that is performed by the varying.

100. The method as set forth in claim 99, wherein the pixels are divided into a plurality of areas, the method further comprising:

averaging the first tone data supplied to the pixels in each of the areas, and controlling the noise generating so that a maximum value of an absolute value of the noise data is relatively smaller in a case where an average value of the first tone data is relatively small than in a case where the average value of the first tone data is relatively

high.

101. The method as set forth in claim 100, wherein:

a video signal including the first tone data is obtained by dividing an image into a plurality of blocks and encoding each of the blocks, and wherein the areas correspond to the blocks.

102. The method as set forth in claim 86, further comprising:

varying a least significant bit of the second tone data in accordance with a predetermined pattern so that a tone obtained by averaging the second tone data supplied to the same pixel corresponds to a tone whose least significant bit has not been rounded by the noise adding.

103. The method as set forth in claim 102, wherein

the correcting of the current second tone data is stopped when a difference between the previous second tone data and the current second tone data corresponds to a possible difference caused merely by addition of the noise data and variation of the least significant bit that is performed by the varying.

104. The method as set forth in claim 103, wherein the pixels are divided into a plurality of areas, the method further comprising:

averaging the first tone data supplied to the pixels in each of the areas, and controlling the noise generating so that a maximum value of an absolute value of the noise data is relatively smaller in a case where an average value of the first tone data is relatively small than in a case where the average value of the first tone data is relatively high.

105. The method as set forth in claim 104, wherein:

a video signal including the first tone data is obtained by dividing an image into a plurality of blocks and encoding each of the blocks, and wherein the areas correspond to the blocks.

106. The method as set forth in claim 86, wherein both the current second tone data and the previous second tone data are stored, the method further comprising:

second correcting the previous second tone data previously corrected in the correcting step, so that the previous second tone data approaches further previous

second tone data when a combination of the further previous second tone data and the stored previous second tone data is a predetermined combination.

107. The method as set forth in claim 106, further comprising:

limiting a total of a bit width of the current second tone data and a bit width of the previous second tone data so that the total corresponds to a preset value.

108. The method as set forth in claim 107, wherein the limiting limits a total of a bit width by rounding a less significant bit of at least one of the current second tone data and the previous second tone data, before the storing of the current second tone data and the previous second tone data.

109. The method as set forth in claim 108, wherein a ratio is changed, at which the bit width of the previous second tone data is contained in the preset value, in accordance with at least one of a type of an image and a temperature.

110. The method as set forth in claim 107, wherein

a ratio is changed, at which the bit width of the previous second tone data is contained in the preset value, in accordance with at least one of a type of an image and a temperature.

111. The method as set forth in claim 86, further comprising:

converting, prior to the noise adding, the first tone data into tone data having a  $\gamma$  property relatively larger than a  $\gamma$  property of the first tone data.

112. The method as set forth in claim 111, wherein the correcting use rounded off bits for correcting current second tone data of the pixel.

113. The method as set forth in claim 111, wherein a possible lowest limit of the tone data having been subjected to  $\gamma$  conversion is set to be higher than a lower limit of a representable value range of the tone data, said tone data varying according to conversion of the first tone data.

114. The method as set forth in claim 111, wherein:  
a bit width of the first tone data is 8 bits, and

a bit width of the tone data having been subjected to the  $\gamma$  conversion is 10 bits, and

a bit width of the at least one less significant bit is 2 bits.

115. The method as set forth in claim 114, wherein the correcting uses the less significant 2 bits for correcting current second tone data of the pixel.

116. The method as set forth in claim 113, wherein:

a bit width of the first tone data is 8 bits, and

a bit width of the tone data having been subjected to the  $\gamma$  conversion is 10 bits, and

a bit width of the at least one less significant bit is 2 bits.

117. An image display method including the driving method as set forth in claim 86.

118. The image display method as set forth in claim 117, wherein the image display method is for a television receiver.

119. A driving method for an image display device,



comprising:

- generating noise data;
- adding the generated noise data to received first tone data so as to generate second tone data;
- storing the second tone data of the pixel;
- correcting the current second tone data of the pixel, in accordance with stored previous second tone data, so as to facilitate tone transition from the previous second tone data to the current second tone data; and
- rounding at least one less significant bit so as to output corrected current second tone data.

120. A program, adapted to cause a computer to execute the method of claim 86.

121. A program, adapted to cause a computer to execute the method of claim 119.

122. A computer signal, comprising the program of claim 120.

123. A computer signal, comprising the program of claim 121.

124. A computer readable medium, comprising the program of claim 120.

125. A computer readable medium, comprising the program of claim 121.